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TELLINGTON TOUCH EFFECT ON FASTING BLOOD SUGAR LEVEL IN TYPE 2 DIABETIC PATIENTS

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Abstract

Introduction and Goal: *today, one way of treating type 2 diabetic patients is complementary or alternative therapy aside the common medical therapies. Massage therapy is one of the most useful complementary or alternative therapies and it is known as one of the nursing special techniques. A high percent of type 2 diabetic patients uses complementary or alternative therapy. The purpose of the current study was to examine the impact of tellington touch on fastingblood sugar level of type 2 diabetic patients.*

Materials and Methods: *This is a quasi-experimental study with two groups, two steps [before and after] plan. Sample of this research comprise 70 type 2 diabetic patients who refers to endocrinology and metabolism research center of Shiraz University of medical sciences that had criteria for entering the study. Samples were randomly assigned to control and experimental groups. Data were analyzed using statistical SPSS software and statistical tests such as [mean and standard deviation], Independent-T and paired T test.*

Results: *Results showed that the level of fastingblood sugar of type 2 diabetic patients had reduced meaningfully in the massage group after the intervention than before it [$p< 0.05$].*

Conclusion: *Results showed that massage had a positive effect on decreasing of the level of fastingblood sugar of type 2 diabetic patients; so, we can recommend this method as a complementary or alternative therapy aside the routine medical therapies in order to reduce the level of fastingblood sugar of type 2 diabetic patients.*

Key words: *tellington touch, fastingblood sugar, type 2 diabetes*

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INTRODUCTION:

Today, one way of treating type 2 diabetic patients is complementary or alternative therapy aside the common medical therapies. Massage therapy is one of the most useful complementary or alternative therapies and it is known as one of the nursing special techniques. A high percent of type 2 diabetic patients uses complementary or alternative therapy. The purpose of the current study was to examine the impact of tellington touch on fasting blood sugar level of type 2 diabetic patients. The incidence of diabetes has risen dramatically over the past 50 years, along with obesity. By 2010, approximately 285 million people had this disease, while their number in 1985 was about 30 million [1] and by the year 2030, more than 438 million people will get diabetes, according to the International Federation for Diabetes [2]. The national study on the risk factors for non-communicable diseases estimates that the prevalence of diabetes in Iran in 2008 was 7.7% [with 95% confidence]. The World Health Organization estimates that the number of diabetic patients in Iran by 2030 will reach more than 6 million people. Given the rising life expectancy in Iran, there is no doubt that the prevalence of diabetes complications is increasing. Good blood glucose maintenance is the basis for diabetes care and reduces complications [3]. Type II diabetes is characterized by three pathological abnormalities including insulin secretion, insulin resistance, and excessive liver glucose production [4]. Chronic complications of diabetes mellitus have a direct relationship with high blood glucose levels [5]. Increasing blood glucose leads to non-enzymatic glucose binding to proteins inside and outside the cell. People who have a long history of diabetes mellitus have kidney failure, ocular damage, cardiovascular failure, and central nervous system failure [6]. Irreversible complications of diabetes are due to end-products of non-enzymatic glycation, which, due to changes in the composition of biomolecules, causes the onset of some complications such as atherosclerosis, nephropathy and retinopathy [7]. Due to numerous complications, this disease requires a proper method for regulating blood glucose. In fact, blood glucose regulation is a challenge for patients with type 2 diabetes [8]. Currently, the main and effective treatment of diabetes is the use of insulin and chemical drugs that lower blood sugar, but these drugs have many side effects. Due to the complications of these drugs, researchers are looking for non-pharmacological methods to regulate their blood glucose [9]. There are a number of complementary therapies along with drug therapies. Supplementary therapies can help insulin function or increase its effect. A diabetic patient may seek complementary therapies to lower blood glucose levels, reduce drug doses or reduce insulin resistance, and complementary therapies can help patients improve their quality of life or control diabetes complications [10]. Available data suggests that most diabetic patients use complementary therapies alongside conventional treatments, which is 1.6 times as high as non-diabetic patients. Egede et al [2002] in their research showed that people over the age of 65 and people with higher education were more likely to use these treatments. According to the findings of the study, the commonly used complementary therapies in diabetics were the following, respectively: diet, spiritual healing, herbal remedies, massage and meditation [11]. Cox [1990-1997] in his research showed that the proportion of massage users in the United States ranged from 7% to 11% of the population, which is the highest increase among all complementary therapies [12]. Massage increases the circulation of the muscles by reducing the body's chronic tension, and by eliminating physical and mental fatigue, it can create mental and physical relaxation for the individual, which reduces stress [13]. It can also reduce anxiety and stress in people by reducing levels of cortisol and increasing serotonin levels and thereby affect blood glucose levels [14]. Massage is used in various forms in diabetes medical research. However, from foot massage to neuropathy to massage of the injection site and massage of the whole body, although the usefulness of 100% as a complementary therapy, in the treatment of diabetes still requires extensive research [15].

One of the many forms of massage is oysters massage. Sassy Massage was first used in 1978 by Jones to tame animals such as horses, dogs and cats. Five years later [1983], this method was also used on humans. The benefits of this method are simple learning and easy to use, no need to learn body anatomy and no need for additional tools. Other benefits of massage in the stomach include stress relief, neck pain, leg and back pain, migraine pain and depression, arthritic pain control, quality of life, and deep interpersonal communication. The method of doing this kind of massage is that using the fingers that the palm is not completely tangent to the body; one-round and one-quarter clockwise massage is performed [16 - 17]. One of the benefits of this method is to reduce stress [18]. Regarding the advantages of this method, unfortunately, as far as the researcher is concerned, in Iran, unlike advanced countries to date, no essential work has been done on complementary therapies for type II diabetic patients. Therefore, the researchers decided to investigate the effect of massage therapy on the level of fasting blood glucose in type II diabetic patients.

MATERIALS AND METHODS:

This is a quasi-experimental study with two groups, two steps [before and after] plan. Sample of this research comprise 70 type 2 diabetic patients who refers to endocrinology and metabolism research center of Shiraz University of medical sciences that had criteria for entering the study. Samples were randomly assigned to control and experimental groups. Data were analyzed using statistical SPSS software and statistical tests such as [mean and standard deviation], Independent-T and paired T test. This study is a semi-experimental research with two-group design, pre and post type. The study population consisted of 70 diabetic patients referred to the Endocrinology and Metabolism Research Center of Shiraz University of Medical Sciences who were selected to participate in the study. The subjects were randomly divided into two groups: control [35 persons] and massage [35 persons]. Entry requirements included: aged 55-18 years, having diabetes according to a doctor's diagnosis, having a case at the Endocrine and Metabolism Research Center, a willingness to do research and not having another chronic disease, had no prohibition of massage. Exit from research requirements: Massage ban, mental retardation, blindness and deafness, ketoacidosis attack in a recent month, new physical problems, reluctance to continue studying, exposure to other treatments and effective effects on fasting blood glucose, were. The intervention was as follows: the test group received a 30-minute massage session for 10 weeks, and received the standard care center from the center. Intergroup and intergroup changes in fasting blood glucose [with glucometer] were measured before and immediately after the end of the sessions. SPSS software version 21 was used for data analysis and independent t-test and t-test were used for statistical analysis [mean and standard deviation].

RESULTS:

Results showed that the level of fasting blood sugar of type 2 diabetic patients had reduced meaningfully in the massage group after the intervention than before it [$p \leq 0.05$].The subjects in both groups were matched by sex, average duration of diabetes [$p = 0.15$] and education level. The duration of diabetes was at least a month and a maximum of 9 years. 64% of them had lower or lower education. There was no significant difference between fasting blood glucose [control] and interventional groups before intervention [ointment massage]. There was a significant difference between the control group and the intervention group after the intervention [sessile massage]. There was no significant difference in fasting blood glucose in control group before and after intervention [oyster massage]. In the intervention group before and after the intervention [sessile massage], there was a significant difference between fasting blood glucose [Table 1].

Table1: Comparing mean of fasting blood sugar before and after intervention

variables		Control group Mean ± standard deviation	Intervention group Mean ±standard deviation	p- value coupled-T test
Fasting blood sugar [mg/d1]	Before intervention	171.96± 52.71	180.26 ±56.15	0.530
	After intervention	165.82± 59.47	145.11 ±40.42	0.028
p- value , Independent-T test		0.148	0.006	

DISCUSSION:

Overall, the results indicate the positive effect of intervention [sessile massage] on reducing fasting blood glucose in diabetic patients. Dillion observed that type 1 diabetic patients with good control, who massage the injection site for 3 minutes after 15 minutes of insulin injection, had higher insulin levels and lower serum glucose levels up to 15 minutes after starting the massage and 29 minutes after injection. At the same time, no significant changes were observed after 30 minutes after massage and 44 minutes after injection of serum levels of glucose by 8.3%. This decrease was significant [$p< 0.05$]. A similar report showed that fasting blood glucose levels reached normal range in patients who took insulin injection sites for 3 minutes each time. Dillion suggested that injection site massage could promote common insulin therapy by enhancing insulin's ability to improve after food [19]. In a study by researchers at the Touch Institute [2000], it was observed that massage of diabetic patients for one month could have a positive effect on reducing anxiety and dependence, improving mood and appetite, taking the diet and insulin, and lowering blood glucose levels. , So that in the massage group, the mean glucose in the patients ranged from 157/7 in the first day to 118 in the last day [20] which is similar to the current study. According to the findings of this study, it is recommended to teach this method as a complementary therapy alongside routine

diabetes therapy to reduce the blood sugar of diabetic patients in clinical and educational centers for patients and careers. Massage therapy also gives nurses the opportunity to practice nursing from a unique perspective. Working as a therapist's massage nurse clearly reveals the relationship between mind, body and soul. Massage, when combined with nursing, uses science and art together. Independent performance in massage therapies allows nurses to provide unique care, and this is the main goal for the nursing team, which is very valuable [21].

CONCLUSION:

Results showed that massage had a positive effect on decreasing of the level of fastingblood sugar of type 2 diabetic patients; so, we can recommend this method as a complementary or alternative therapy aside the routine medical therapies in order to reduce the level of fastingblood sugar of type 2 diabetic patients. Therefore, according to the results of this study, it is suggested that students be included in the student's training program, especially massage and relaxation, and faculty members emphasize the importance of using complementary therapies, and retraining staff for nursing staff will take courses in This relationship holds.

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